

New claims 148-159 recite a "plurality of identical oligonucleotide primers of defined length and base sequences". Support for new claims 148-159 is inherent in the disclosure found at least at page 9 and 10 and in Examples I and V. These sections describe oligonucleotide primers and their inherent properties and use in labeled fragment extension analysis.

Applicants respectfully request entry of the amendments to pending claims and new claims.

Representatives for Applicants thank the Examiner for the courtesy of the June 20, 2000, telephone conference. Applicants believe that points of agreement were reached as discussed below.

35 U.S.C. § 112, first paragraph, Rejection of Claims

The Office Action rejects claims 75-77, 81-83, 88, 98-103, 105-107, 109-111, and 118-147 under Section 112, first paragraph, as allegedly enabling only for DNA fragments tagged with the fluorophores fluorescein, Texas red, tetra methyl rhodamine and 7-nitro-benzofurazan. The Office Action states that the specification does not reasonably provide enablement for any chromophore or fluorophore covalently linked to a duplex at any position.

In response, Applicants respectfully traverse this rejection of claims and as it applies to new claims 148-159. Applicants submit that the claims are in compliance with Section 112, first paragraph.

As discussed in the June 20, 2000 telephone conference with Examiner Houtteman, the presently claimed invention represents a significant advance in the art and provides compositions and methods for labeled fragment analysis. Applicants submit that the specification as filed enables a reasonable number of embodiments of the invention and explicitly provides several illustrative examples of chromophores and fluorophores and methods for covalently coupling fluorophores and chromophores to oligonucleotide primers. Based on the disclosure of the specification, Applicants submit that it would be deemed routine for one of skill in the art at the

time of the filing date to identify other examples of chromophores and fluorophores that could be used in the presently claimed invention and methods for covalently coupling them to oligonucleotide primers. The choice of a specific chromophore and/or fluorophore is not essential to the nature of the invention.

The Office Action cites Menchen et al., U.S. patent number 5,188,934, in rejecting claims stating that there are several restrictions on the nature of dyes useful in automated DNA sequence analysis. Menchen, which relates to a new class of fluorescein dyes useful in automated DNA sequence analysis and which was filed after the effective priority date of the present invention, is irrelevant to the presently claimed invention. While Menchen provides a new class of dyes which may be used in DNA sequencing methods, the presently claimed invention does not require the use of specific or optimum dye(s).

Applicants believe that the presently claimed invention is in compliance with Section 112, first paragraph requirements and believe that agreement on this point was reached with Examiner Houtteman in the June 20, 2000 telephone conference.

Accordingly, Applicants respectfully request a withdrawal of the Section 112, first paragraph rejection of claims 75-77, 81-83, 88, 98-103, 105-107, 109-111, and 118-147 and as it applies to new claims.

35 U.S.C. § 102(b) Rejection of Claims

Claims 75-77, 81-83, 88, 98-103, 105-107, 109-111, and 118-147 stand rejected as allegedly being anticipated by Smith et al., Nucleic Acids Research Vol. 13, pages 2399-2412 (1985) (Smith 1985).

Applicants respectfully traverse this rejection of claims.

Applicants submit that the effective priority date of the instant application is January 16, 1984 and that Smith 1985 is not available as prior art.

Therefore, Applicants respectfully request a withdrawal of this Section 102(b) rejection of claims.

35 U.S.C. § 102(e) Rejection of Claims

Claims 75-77, 81-83, 88, 98-103, 105-107, 109-111, and 118-147 stand rejected as allegedly being anticipated by Smith, US Pat. 4,849,512, 7/19/89, effective Filing Date 12/20/83 (Smith 1989). Applicants believe that the Office Action intends to reject claims in view of 4,849,513 by Smith.

Applicants respectfully traverse this rejection of claims.

Applicants submit that the generic concept underlying the presently claimed invention was conceived and reduced to practice before December 20, 1983, the effective priority date of Smith 1989. Applicants submit herewith, a Declaration of Lloyd M. Smith under 37 C.F.R. § 1.131 (Smith Declaration) which states that fluorescent dye labeled oligonucleotides primers were conceived and reduced to practice prior to December 20, 1983 and used in DNA sequencing reactions prior to December 20, 1983.

Applicants submit that in view of the Smith Declaration, the rejection of claims under Section 102(e) in view of Smith (1989) is obviated because Smith (1989) is not available as prior art.

35 U.S.C. § 103(a) Rejection of Claims

Claims 75-77, 81-83, 88, 98-103, 105-107, 109-111, and 118-147 stand rejected as allegedly being unpatentable over Smith 1985 and Smith 1989. Applicants invite the Examiner's attention to the Office Action mailed May 27, 1999 (Paper Number 29) which rejected claims under 35 U.S.C. § 103(a) over primary references in view of Smith et al., U. S. Patent 5,118,800 (Smith 1992) which the Office Action stated had an effective filing date of December 20, 1983.

Applicants respectfully traverse this rejection of claims.

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As noted above, Smith 1985 is not available as prior art to the instant application since it was published after the effective priority date of the instant application. As noted above, Smith 1989 is antedated by the Smith Declaration and therefore, is not available as prior art to the instant invention under Section 103(a). Additionally, Smith 1992 is antedated by the Smith Declaration and therefore is not available as prior art to the instant invention under Section 103(a).

Therefore, Applicants believe that the Section 103(a) rejection of claims is obviated.

Information Disclosure Statement

Applicants mailed a Supplemental Information Disclosure Statement (SIDS), along with a Form PTO 1449, 3 references and the appropriate fee on June 10, 1998, which has not been initialed as considered by the Examiner and returned to Applicants. As a courtesy, Applicants are re-submitting a copy of the SIDS, Form PTO 1449 and date stamped return postcard and respectfully request that the Examiner consider the previously submitted 3 references and provide an initialed Form PTO 1449 to Applicants.

CONCLUSION

Applicants have, by way of the amendments and remarks presented herein, made a sincere effort to overcome the rejections and address all issues that were raised in the outstanding Office Action. Accordingly, reconsideration and allowance of the pending claims are respectfully requested. If it is determined that a telephone conversation would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

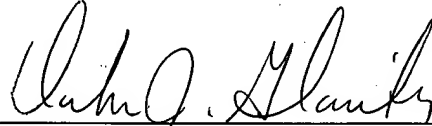
In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorizes the Assistant Commissioner to

charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 243132000105. However, the Assistant Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

Dated: June 28, 2000

By:



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